

FROG CALL



NEWSLETTER No. 88
April 2007

THE FROG AND TADPOLE STUDY GROUP OF NSW INC
Email fatsgroupnsw@hotmail.com
PO Box 296 Rockdale NSW 2216
Website www.fats.org.au
ABN 34 282 154 794



“Waterway” by Andrew Lo. See page 6
Ink on xuan paper, 62 cm x 62 cm.
www.galleryhm.com.au

Frogmobile helpers required at the Centennial Park duck pond.
Call Lothar Voigt on lothar@exemail.com.au
or 9371 9129 or the Frogwatch Helpline 0419 249 718.

Join us at the next FATS meeting 6.30pm
for a 7.00 pm start NB NOT Good Friday!

Friday 13th April 2007

Follow signs to Building 22, Jamieson St.
off Holker Street, Sydney Olympic Park

Public transport available by bus or train.
Call us the day before if you would like
to be collected from the train station.

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MEETING FORMAT for 13th April 2007

- 6.30 pm Oodles of Adult Green Tree Frogs *Litoria caerulea*, Dainty Tree Frogs, a Rubella and a Perons. “Lost frogs” are ready to collect. Bring your FATS membership card and Amphibian Licence if you would like to give one of them a home.
- 7.00 pm Welcome and announcements.
- 7.30 pm Main Speakers: George Madani and Henry Cook: More herps. from the Kimberleys- How can there be so many species?
Matt and Brad McCaffrey: Smiths Lake Field Trip
Marion Anstis: Frog news from the Kimberley
- 8.15 pm 5 Favourite Slides. Tell us about your recent frogging trips or experiences. If you have slides or other images, bring them along as well. Door prize and guessing competition, followed by light refreshments and pleasant conversation₁

LAST FATS MEETING 2 FEBRUARY 2007

Arthur White welcomed everyone to the meeting and announced more information on the Cane Toad Muster at Port Macquarie. FATS will have a presentation on the muster at the next meeting in June.

Helpers for Broughton Island must now be either over 18 or under 65 years of age due to insurance restrictions. The Frogmobile has been out and about, more often than not Lothar is manning it alone and could really use some help, even just for an hour. Inside this issue is a call for entries to our photographic competition.

Arthur White was our main presenter last meeting. He graphically described the introduction of Frogs in New Guinea. Where did New Guinea frogs come from? How do you survey a diverse inaccessible environment? Early 1900's descriptions identified over 85 frog species. Now there are more than 352 frog species identified.



The Giant Tree Frog *Litoria infrafrenata* is one of the most commonly seen frogs in New Guinea.

Geologically, New Guinea is a recent creation where million years ago it was just a series of small isolated islands. In the last 20 million years, the main island of New Guinea was formed and the island chains were compressed to provide an animal pathway from Asia to Australia. Asian frogs (Ranids and Microhylids, narrow mouthed frogs with blobby bodies) were quickly able to cross the island chain from the north west and to enter the new island of New Guinea. Here they radiated to quickly produce new genera and many new species. From Australia, Tree Frogs (Hylids) and Ground Frogs (Myobatrachids), were not able to enter New Guinea until it was already well settled by Asian frogs. The Australian tree frogs did flourish however in the wet forests of New Guinea whereas the Ground Frogs, which require more open habitats, have not fared as well.

The result of the invasion of frogs from two directions is an island bursting with frogs.

With some 786,000 km² of tropical land, less than one-half of one percent (0.5%) of the earth's surface, New Guinea has an immense ecological value in terms of biodiversity, with between 5 to 10% of the total species on the planet. A high percentage of New Guinea's species are endemic

(found nowhere else), and thousands are still unknown to Western science: probably well over 200,000 species of insect, between 11,000 to 20,000 plant species; over 650 resident bird species, including most species of birds of paradise and bowerbirds, parrots, and cassowaries; over 400 amphibians; 455 butterfly species; marsupials including Bondegezou, Goodfellow's Tree-kangaroo, Huon Tree-kangaroo, Long-beaked Echidna, Tenkile, Agile Wallaby, Alpine Wallaby, cuscuses and possums; and various other mammal species. Most of these species are shared, at least in their origin, with the continent of Australia, which was until fairly recent geological times, part of the same landmass.

New Guinea is a large island located north of Australia, and south-east of Asia. It is part of the Australian Plate, known as Sahul, and once formed part of the super-continent Gondwana. The origin of most New Guinea fauna is closely linked to Australia. Gondwana began to break up 140 million years ago, and Sahul separated from Antarctica 50 million years ago. As it drifted north, New Guinea moved into the tropics.

Throughout New Guinea's geological history there have been many land connections with Australia. These have occurred during glaciations in various ice ages. Four occurred during the Pleistocene; the last of which was severed 10,000 years ago. At this time, a number of species existed on both land masses, and many plants and animals thus crossed from Australia to New Guinea and vice versa. Many later became isolated as the connection ended, then further evolving to the new environment and becoming distinct species.

However, this Australia-New Guinea mixing occurred among a relatively few faunal groups; some New Guinea species have an Asian origin. As New Guinea drifted north, it collided with the Pacific Plate as well as a number of oceanic islands. Although no land connection with Asia was ever formed, the proximity between the landmasses, via the many small islands of the Indonesian archipelago, allowed some Asian species to migrate to New Guinea. This has resulted in a unique mixture of Australian and Asian species, seen nowhere else in the world. A large percentage of New Guinea's species are endemic to the island. *Image below by Stephen Richards*





The team says it did not have nearly enough time during its expedition to survey the area completely and intends to return in August or September this year. The Foja Mountains appear to be one of the richest sites for frogs in the Asia-Pacific region. More than 20 new species of frogs were found. *Image: Stephen Richards*

<http://news.bbc.co.uk/1/hi/sci/tech/4688000.stm>



The Foja Mountains are a hotspot for frogs, says the Conservation International Rapid Assessment Program expedition team (*Image: Stephen Richards*)

The amphibians of New Guinea, like most Gondwanan continents, are restricted to those of the order Anura, known as frogs and toads. There are six families represented in New Guinea. Four of these: Myobatrachidae, Hylidae, Ranidae and Microhylidae are native. Two specimens of Rhacophoridae, a family well represented in Asia, were discovered in 1926. It is thought they were introduced by humans, but have since become extinct on the island. The other family, Bufonidae, is only represented by two species, the Cane Toad (*Bufo marinus*) and the Asian Black-spined Toad (*Bufo melanosticta*). The Cane Toad was introduced from Australia in 1937 to control hawk moth larvae, which were eating sweet potato crops. The introduction was successful, however the Cane Toads have since become common in non-forested areas. There is also an introduced species of ranid frog as well.

Frogs from the family Myobatrachidae are very diverse in Australia, but not many species have established in New Guinea. This is believed to be because of the climate and vegetation type. Myobatrachids in Australia mostly inhabit open grasslands, or even desert. New Guinea, however, is

mostly covered in dense rainforest. The most common Myobatrachid in New Guinea is the Wokan Cannibal Frog *Lechriodus melanopyga*. It is a small ground-dwelling frog common throughout New Guinea. The *Lechriodus* genus, is the only Myobatrachid genus with greater diversity in New Guinea than Australia. New Guinea has seven Myobatrachid frogs from 5 different genera..

Tree frogs (Hylidae) have successfully inhabited New Guinea. They are the second-most diverse family of frogs in New Guinea with 88 species, and many more to be described. There are two genera represented in New Guinea, *Litoria* and *Nyctimystes*. *Nyctimystes* are arboreal frogs, which lay their eggs in fast flowing streams, behind a rock to avoid it being flushed away. The tadpoles have modified mouths, which use suction to stick to rocks.

Ranidae, also known as true frogs, are the most widely distributed family of frogs on earth, however, they are not well represented in Australia. New Guinea and Australia have been absent of Ranids for most of their history, however since the continent's collision with Asia, species have begun to move across. New Guinea has 46 species of ranids comprising 8 genera, whereas Australia only has one species.

Although the origins of the Narrow-mouthed frogs (Microhylidae) in New Guinea are very similar to the Ranids (i.e Asian), there is much more diversity. Microhylids dominate New Guinea; to date 156 species have been described comprising 19 genera. These small frogs range from lowland swamps to mountain forests and have claimed New Guinea as their stronghold. Between 2 to 4 million years ago the first Microhylids crossed Torres Strait and entered Australia. Since then there have been other crossings resulting in a flourishing assemblage on Narrow-mouthed Frogs in Northern Australia. It is doubtful that Microhylids will disperse far south and that they will remain in the tropical, wet areas. See map p10

The text above includes extracts from http://en.wikipedia.org/wiki/New_Guinea
Notes from our last meeting continues on page 7
<http://www.nationalgeographic.com/ngm/0105/pov.html>



An early walker, a newly hatched froglet in Papua New Guinea skips the tadpole stage and enters the world looking for someplace to go (below).

Going for a juicy meal (above), a toad puts a new spin on fast food with a quick flick of its tongue.

BOOK WRANGLER MOSTLY IN BED

First Steps, Neoteny, Ventral Vaginas and Baby Brains is the title of one of the many sections of Chapter 34 ("Humans Among Primates") of this magnificent work. As the book's title "Evolution and Biogeography of Australasian Vertebrates" already suggests, it is not exactly light reading. In fact, it weighs in at 3.7 kg on my bathroom scales. It looks better still on any sturdy coffee table, especially if you leave the price sticker on it. But at only 17 cents for each of the 1000 densely printed pages, it is a great bargain. (Mind you, it's 23 cents for the hardback version, but the Australian Scientific Publishing's information write-up on www.auscipub.com is free). My only complaint, which I promptly vented on John Merrick, its principal editor, was that I really prefer reading in bed, in a dorso-lateral position, without needing to fear for my thorax and front limbs collapsing. But John, Mike Archer and others had only followed in the tradition of an earlier doorstop that needed updating.

And there is plenty of up-to-date information to be found. Like snakes no longer being considered alongside the lizards but within them, right next to monitors and Gila Monsters. Like sharks possibly being nested within bony fishes instead of being their sister group. Like at last someone clearly explaining the differences between the various genetic techniques used for mapping evolutionary relationships, as well as describing the morphological methods – where I gained the happy impression that to interpret them confuses the experts as much as us outsiders. Conservation, environmental issues and maintaining biodiversity in the face of climate change and other challenges, these are recurring themes throughout the book.

The individual authors organised their chapters in whichever way they thought best, in contrast to the 240-page FATS book "Threatened Frogs of NSW – Habitats, Status and Conservation", where all our authors followed the same outline – because the 25 species we investigated needed to be compared alongside each other. Without the need for such straightjacket, the Vertebrate book's chapters are peppered with lively quirks, gems and surprises, admittedly within a sea of facts and data. Dry? Sure. Boring? Only if you think there's anything boring about the unique, amazing stuff that's this side of the Wallace line!

Oh, and frogs? The book has four overview chapters on them, including one by our very own Arthur White.

If you liked Richard Dawkins' "The Ancestor's Tale", or Mary White's "Greening of Gondwana" and are now ready to tackle the subject at a slightly deeper level, then this book is for you. Or if you just like the idea of having something in common with some of those amphibians – like neoteny. L.V.

FROG WRANGLER ON RADIO AND INTERNET

In February the AQOB website went live - the new site of the "A Question of Balance" 2SER radio program (on 107.3 FM, Tuesdays 9 am) which has been providing the public with endless exposure to the FATS Group's frog and environmental messages. In particular, AQOB has been pumping out "Frog Wrangler Time", Arthur White's 5-minute frog talks, about 60 of them by now, and has also syndicated them to dozens of other community stations. And now you can hear Frog Wrangler Time coming out of the internet! You can download these 12 segments for starters:

- * Are all frogs sensitive to pollution?
- * Do Australian frogs fight?
- * Can Australian frogs poison people?
- * Can frogs survive in salty water?
- * How do you tell male and female frogs apart?
- * Do frogs make good pets?
- * How do you care for a pet frog?
- * How do you get a pet frog?
- * Do pet frogs get lonely?
- * Can you train a pet frog?
- * How long do frogs live?
- * What do frogs eat?

See also the froggy photos on www.aqob.com.au and check out the Frogwatch Helpline and the Frogmobile on the menu. After that, take the link to our own site www.fats.org.au or have a look at AQOB's other and wide-ranging environmental and wildlife topics. For example, Culum Brown's continuing series on fish intelligence, cognition and behaviour are a treat and will also be downloadable on demand. Congratulations, AQOB, and thank you for making frogs, FATS and froggers (and fish and fishers) more accessible to the community! L.V.

P.S. – If you have read something you want to share with us, or that you'd like your public library to add to their wish list, would you care to write the next Book Wrangler article?

2007 INAUGURAL FROGOGRAFIC PRIZE

Do you have a favourite froggie photo or drawing? **Yes?** Post a copy to The secretary, FATS at PO Box 296 Rockdale NSW 2216, to arrive no later than 15 July 2007. Please include your name, age and contact details. All entries must be the entrant's own work. Maximum, six entries per person. Entries will be judged by the FATS committee and our web site. Categories:- 1) Best frog photo (2 groups:- all ages and under 16 yrs old) 2) Best frog artwork ie drawing, cartoon or painting (2 groups:- all ages and under 16) 3) Most interesting image (2 groups all ages and under 16) 4) A "people's choice" award will be judged at the August meeting of FATS. (open to all ages) **The FATS committee**

Hexham Bowling Club and the big mosquito!



FROGBITS & TADPIECES

A big thank you to Lynda and Harry who donate their nine big fat Green Tree Frogs to FATS. They moved from Prospect and could not take them along.

And a big thank you from Mathew of Kellyville who donated his 4 Magnificents, 3 White-lips and 2 Greens to FATS. They will look great in the Frogmobile.

Red-eyes everywhere! Our new member Karen had a spectacular spawning event, and she now has droves of baby Red-eyed Green Tree Frogs. She is donating some to the Frogmobile, and she will also bring some to the next meeting, in case you want to take your licence with you and buy any from her directly. Please be aware that they have not gone through FATS quarantine, that FATS can take no responsibility for them and that we recommend that you familiarise yourself with frog hygiene as per Frogfacts No. 8.

Red-eyes in the wading pool! Michelle from the Byron Bay area had them spawning in a 60 cm high inflatable pool (half full) which curves inwards halfway up and then outwards again – like someone with a fat bottom lying on the side. This is a bit of a mystery because most frogs have great trouble climbing up a wall that curves backwards. They may have jumped up from the ground, but then they still had to face the same overhang on the inside, to eventually get out. A second mystery is that she described one frog by her pool as more streamlined and clearly having blue legs! Could that have been the Green and Golden Bell Frog, missing from that area for over ten years?

Blue Mountains Tree Frogs spawning in Emu Plains. A few years ago they did it in someone's above-ground pool. Now Tony, who has a saltwater pool with a cover that had run full of rainwater, found they had spawned on the cover. He is now raising the tads in broccoli boxes.

Cane Toads from Fiji! This is a new kind of a threat. So far, FATS has been handed four of them, after those pesky hitchhikers got unloaded here in Sydney. We will keep you posted as the story unfolds. L.V.

FATS AGM NOTICE

The FATS AGM will be held at the beginning of the 3rd August 2007 FATS meeting, at 7pm. If you would like to ask questions about joining the FATS committee, please give any of us a call (see the last page for contact details). We are an informal and friendly group who get together for a relaxed 3 hour meeting once every two months, usually Sunday afternoons, to discuss future strategies and directions for FATS. There are a diversity of roles within the committee to accommodate your interests and available time. You only need to devote whatever time you can spare. MW



Frog & Reptile Show

FROG AND REPTILE EXPO IN CASTLE HILL

Remember the Stimson's huge Wild Australia Expo at Darling Harbour? He's at it again. This time it's the "2007 Australian Frog and Reptile Show", and it will be at the Castle Hill Showground. On Friday 4th, Saturday 5th and Sunday 6th of May.

As the press release says, there will be frogs, crocodiles, pythons, goannas, turtles, thorny devils but also – no doubt in an honorary capacity – creatures like orb spiders and lungfish. And we can now reveal that as a special treat, the Frogmobile will be there as well!

But what is a good show without competitions? Owners of frogs and reptiles will have the opportunity to enter their pets with the aim of winning "Best in Show", or to win the "Biggest Green Tree Frog" prize.

Run in conjunction with the show, on Saturday 5th May, the Care of Australian Reptiles and Amphibians Conference (CARA 2007) has a line-up of impressive topics and speakers, including Marion Anstis and John Weigel.

Maybe have a look at the website www.australianreptileshow.com.au. Then have a look at the show. If the Darling Harbour expo was anything to go by, we won't be disappointed. L.V.

DATES FOR YOUR CALENDAR

Thursday, 5/4, 10 am and 2 pm: Frog talks by Monica at Easter Show, Horticultural Pavilion.

Friday, 13/4, 1 pm and 2 pm: Frog talks by Grant and Chloe at Easter Show, Horticultural Pavilion.

Sunday, 22/4, 10 – 4: Frogmobile at Centennial Park, Duck Pond. Helpers needed. Also kite flying festival in the Park.

Friday, 4/5 – Sunday, 6.5.: Frogmobile at Frog and Reptile Expo in Castle Hill. See the Expo article on page 5 of this issue. Helpers needed.

Wed. 23/5 – Th. 24.5. Frogmobile at Warringah for schools workshops.

Sunday, 27/5: Frogmobile at Warringah, James Meehan Reserve, for Community Day.

Sunday, 15/7, 10 – 4: Frogmobile at Centennial Park, Duck Pond. Helpers needed.

L.V. phone 9371 9129 or
Frogwatch Helpline 0419 249 728

4,5&6 May 2007
Castle Hill Show Ground, Castle Hill NSW

The Australian Frog+Reptile Show

**"WATERWAY" BY ANDREW LO.
INK ON XUAN PAPER, 62 CM X 62 CM.**

Andrew is an environmental artist who exhibits his works in international galleries. He paints Australian landscapes from memory and expresses them using traditional Chinese techniques. You can see more examples in www.galleryhm.com.au and in other galleries. He also teaches environmental economics and is most of all an enthusiastic and practical frogger and field worker. This is one of the stories from his distant childhood:

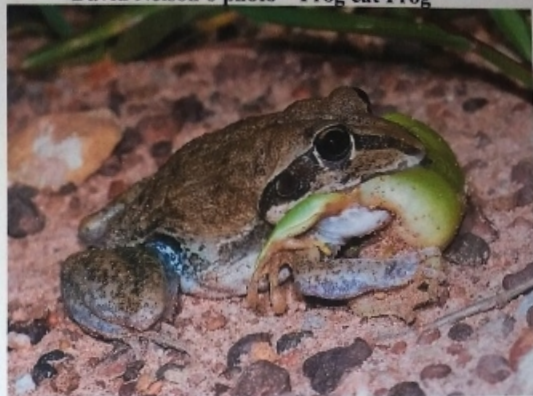
It was the Lo family's custom to send their ducks into the newly harvested rice fields to pick them over as well as to provide organic fertiliser for the next season's crop. It was young Andrew's job to herd them there. "Number three Grandson", his grandmother used to call him, "while you're there, catch us something for dinner". So he shouted "hai", tied a string to a bamboo stick, a big fat earthworm to the end of the string and headed out towards the bamboo groves adjacent to the rice fields where the frogs lived. Andrew had another bamboo stick with a white handkerchief tied to the top end, which he used for signalling to the ducks. In the bamboo grove, Andrew dangled and jiggled his bamboo stick with string and earthworm bait. A big fat frog would emerge and swallow the bait. Andrew quickly lifted and dropped the frog into his tapered bush tucker bag. Meanwhile, all the ducks were watching carefully what he was up to. With lunch in the tucker bag, Andrew would wave his white flag and all the ducks would follow him with eager expectations. The ducks knew the frog meal would be shared between them and the Lo family.

The Lo's rice paddies and frog patches have long gone, gobbled up by Hong Kong's expansion, but Andrew still loves frogs. As pets. As environmental messengers. As part of the world that shaped him and that turned him into the scientist, the environmentalist and artist that we admire him for.

The path that led young Andrew from frog catcher to ecologist is neither a contradiction nor a turnaround. Traditionally, Chinese rice paddies were bordered by groves of bamboo, useful for building materials and as wildlife habitats, where frogs were thriving and could be relied upon to keep insect pests in check. For thousands of years frogs – and the ducks through which many of them passed – were part of a food web that was sustainable and that also sustained many people. In 1941, when the Japanese took over Hong Kong and Andrew's family fled to the grandparents' farm on the mainland, it was this frog-rich and pesticide-free environment that kept him fed in a time of hardship. At that time, Andrew was too young to realise how important such stable frog habitats are. Now, he sees them being replaced by farming practices that rely on pesticides instead and where the frogs have long gone –

to everyone's loss. So he teaches environmental economics. And he paints "Waterway". Waterway is Andrew Lo's way of wanting to repay his debt to the frogs. It is all our debt. L.V.

David Nelson's photo "Frog eat Frog"



LAST FATS MEETING (continued)

Cameron Webb presented an intriguing talk on mozzies and frogs.....

Putting a stop to bites and bumps.

Nobody loves mosquitoes as much as they love frogs.

There are many types of mosquitoes. In the Sydney Basin there are 50 different types. They are found in anything that holds water, such as coastal salt marshes, sandstone ridges and irrigated areas.



Mosquitoes sense odours such as carbon dioxide. Only females bite. The females need the protein "hit" from blood to reproduce. The bite felt, is an allergic reaction to saliva. Everyone reacts differently to bites, but we don't know why.

There are 400 different compounds on the skin that may attract mosquitoes.

There are two species of mosquito that feed of frogs.

There are Arbo, Ross River and Barmah Forest viruses in Australia, with 5,000 cases a year of Ross River



Virus. Symptoms include fever and arthritic pain. There is no cure or vaccine.

What strategies work to limit the effects of mosquitoes? Keep water out of the garden, ie keep gutters cleaned, clean birdbaths etc.

DEET at 80% concentration lasts 12 hours where 5% concentration lasts about an hour and a half. DEET may not be suitable for continuous use over long periods. Citronella at 10% concentration lasts 20 minutes, peppermint cedar and citronella lemongrass lasts about 19 minutes, lavender and aloe Vera have no observed effect. Mosquito watches and ring tines don't work! There is no evidence that radio waves and ultra sonic devices work.

Light weight long sleeved shirts, head nets and repellents are the best protection in tropical situations. In overnight conditions a preparation with between 20% to 50% DEET is best, as well as mosquito coils and mosquito nets treated with insecticide.

Broad range insecticides are problematic for bees and butterflies.

In garden ponds mosquitoes are reduced by relocating water plants to bog areas and keeping the water moving ie fountains and water spouts.



Mosquito pupa

Could frogs be the key to new repellants? Previous studies by Willems et al 2006 (SA Uni) and *Litoria caerulea* skin washes, are not as effective as DEET but did work.

After rains, the mosquito numbers increase over a ten-day period. Remember mozzies suck so cover up!

A lively debate with questions and answers ensued. MW

Fish frogs flock to pond by Katrina Adamski "We only miss the pool on those really hot days four or five times a year" said Susie Gemmell – making a splash on the environmental front in this backyard wetlands at the Gemmell home. Picture Paul Melville, North Shore Times 2/3/2007

"It has become the absolute joy of our lives although I fully admit Stewart has done all the work," she said.

"We only miss the pool on those really hot days about four or five times a year."

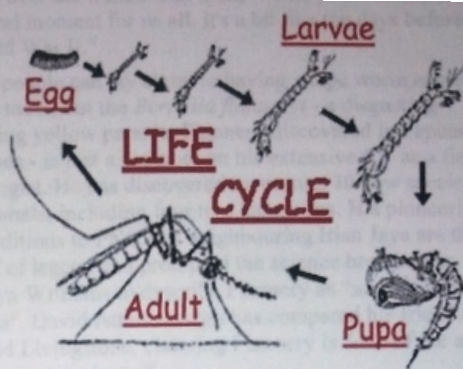
Their daughter Jess, 10, said she did like swimming in the pool but had grown to love the micro-wetland.

"My brothers and I catch fish and we either throw them back in or keep them in fish tanks in our bedrooms," she said.

The pool is now home to thousands of fish, which were



carefully selected for their small mouths so they would not be able to eat tadpoles, and eight different species of dragonfly.



Brad and Matt McCaffery spoke about their Northern NSW and Southern Queensland field trip, which commenced at Dorrigo near Coff's Harbour, last Christmas.

The trip began at Crystal Shower Falls followed by excursions to New England and sightings of Albert's Lyrebird, *Manura albert*, Whistling Tree Frogs, Perons, a Highland Copperhead, Eastern Striped Skink, Three-toed Skinks, an Echidna and White's skink (near Cathedral Rock).

The third night they visited Cascade National Park 20 K North of Dorrigo, sighting *Mixophyes iteratus* Giant Barred Frog, Stony Creek Frog, *Litoria barringtonensis*, Southern Dwarf Crown Snake, huge leeches, *Mixophyes fasciolatus* and *Mix. Balbus*.

Day five at Rosewood Walking Track yielded sightings of the Stuttering Frog, *Mix. fasciolatus* tadpoles, *Assa darlingtoni* making soft calls and a carpet python.

Other species observed included *Litoria chloris* around the house, Murray's Skinks and the Dorrigo Waratah.

As usual, the professional presentation was full of wonderful slides many not mentioned above. Thank you Matt and Brad.

The meeting ended with our traditional guessing competition, light refreshments and informal conversation. MW

The tadpoles are also flourishing and the first summer after the conversion the Gemmell's backyard was so noisy with the sound of frogs they envisaged neighbours complaining.

Susie, the Greens candidate for Ku-ring-gai, said it did not cost a cent to convert the pool other than \$100 for plants.

"We just stopped putting in chlorine, let the pool turn green and started adding plants – it is now so lovely and clear you could swim in it like a dam," she said.



DR FLANNERY, I PRESUME

Explorer, environmentalist, doomsayer, nuclear advocate, political provocateur, intensely private family man. Will the real Tim Flannery please stand up?

It was only later, after spending a glorious morning crouched on the banks of Sydney's Hawkesbury River talking to Tim Flannery, that an unkind thought began to creep in. Could this guy be too good to be true?

It was his obstinate refusal to reveal a skerrick about his wife and two children that did it. There is nothing new in a public figure wanting to protect their family from the media gaze. Annoying for journalists, but entirely reasonable. No, it was something else. A lurking suspicion that Flannery was trying to have it both ways. "I'm not into celebrity," he announced straight up. "I've not run for political office. I am a private person and, anyway, it's the message that's important, not me."

There will be some people - notably scientists and politicians - who are probably picking themselves up off their floors after reading that one. There is no doubting Flannery's gleaming record as an internationally renowned scientist, conservationist, writer and explorer. But he also enjoys a reputation as the palaeontologist provocateur whose knack for getting on people's goat is bettered only by his talent for convincing the rest of the world it is going to hell in a handcart. "Experience," Flannery says without a whiff of regret, "has taught me how to be the jolly hangman. While the rest of the world has moved on, in Australia we're still deciding whether to put solar panels on our roofs. Can I tell you, we're way beyond that."

Flannery looks poised to become the most bolshie and therefore most interesting Australian of the Year in living memory with his "kill the coalmining industry" intervention only a fortnight into his reign. Some in the Green movement believe he should have knocked back the honour because of the Coalition government's woeful record on climate change. Did he consider it? "Not for a second. It's the people's honour, this is the year of climate change and that is why it has been bestowed upon me.".....

Those few Australians who haven't read his *The Weather Makers* better bone up, because Flannery promises it is all he is going to talk about for the next 12 months. He has been telling us all since January 26 that the country is on a war footing, but so far he seems to have leapt over the trench wall alone. "This year's election is the critical moment for us all. It's a bit like the days before World War II.".....

Few people can lay claim to having a tape worm named after them, but the *Bertiella flanneryi* - a disgusting-looking yellow parasite

Flannery discovered in Papua New Guinea - is just a footnote on his extensive CV as a field zoologist. He has discovered more than 30 new species of mammals, including four tree kangaroos. His pioneering expeditions to PNG and neighbouring Irian Jaya are the stuff of legend and prompted the science broadcaster Robyn Williams to describe Flannery as "science's Indiana Jones". David Attenborough has compared his friend to Dr David Livingstone, claiming Flannery is "one of the all-time great explorers".

His passion used to be mammalogy; it's where his international reputation as a scientist was made. (He has had 90 scientific papers published in peer review journals.) He was the principal research scientist in mammalogy at the Australian Museum in Sydney before leaving in 1998 to become director of the South Australian Museum. His segue into climate change science was prompted, he says, by intellectual curiosity and growing alarm at how the Earth's temperature was altering and the impact this would have on all life. His detractors claim he is operating outside his area of expertise, something Flannery dismisses: "The field is too broad. There are only oceanographers, glaciologists, atmospheric physicists, palaeontologists with a broad interest in and understanding of the topic. Palaeontology is the study of 'the past' - a pretty comprehensive arena, and one that prepares the mind well to synthesise the diverse information required to understand climate change.".....

"There is nothing that is more important for me than influencing government policy towards halting the amount of greenhouse emissions, nothing. Our climate is so fragile, it's like it has cancer. We're at the point where we are not sure if it has metastasised or not. I think we can still pull it back, but if we don't act now, we will spend trillions of dollars trying to ward off the new dark ages that will surely follow.".....

But his deep connection with PNG and its people has not diminished.....I knew then that we had taken everything from these people but in the end, we'd given them nothing. The amount of good I had done was trivial compared to what they gave me." **By Julie-Anne Davies. 20/2/ 2007 Extracts from an article on our current Australian of The Year. sent by Steve Weir**

<http://bulletin.ninemsn.com.au/article.aspx?id=228258>

PS Prof Flannery will be speaking about his book "The weather makers" Ashfield Town Hall 260 Liverpool Road Ashfield free admission doors open 6.15pm for a talk from 7 to 8pm Friday 23/11/2007 The details will appear on Ashfield Council's web site, eventually. <http://www.ashfield.nsw.gov.au/> http://www.ashfield.nsw.gov.au/library_authatashfield_Coming.h

ROAD-CROSSING STRUCTURES FOR AMPHIBIANS AND REPTILES: INFORMING DESIGN THROUGH BEHAVIORAL ANALYSIS



Hara Woltz in pipeline with creatures Ph.D. Candidate

Seasonal movements are fundamental to the life cycles of many species of amphibians and reptiles. These patterns of migration can be compromised by the presence of roads. Roads negatively impact many amphibian and reptile populations in various ways, such as obstructing movement, fragmenting and degrading habitats, and causing increased mortality through vehicular contact.

HARRY MELBOURNE

1912 - 2007

THERE could have been no more apt send-off for Harry Melbourne on Tuesday than for his coffin to be draped in a Freddo Frog flag, for Melbourne was the man who first gave Australia the hugely popular chocolate, shaped like a frog, 76 years ago.

Melbourne, who died from golden staph in hospital, aged 94, came up with the idea of Freddo Frog when he was an 18-year-old working at MacRobertson's Chocolates in Fitzroy in the city with which he shared a name.

He also invented the name for the product, eschewing the urging of some colleagues to name it "Harry". He chose, instead, to name it after a mate at the factory. Adding a touch of marketing savvy to his creative flair, he told the owner of the company, Sir Macpherson Robertson: "Call it Freddo, after Fred."

And so Freddo Frog was born, gaining for Cadbury the company that took over MacRobertson's, sales of about 98 million Freddos a year. The frogs are Cadbury's best-selling chocolate figure.

Melbourne was born in Gainsborough in England. He came to Australia with his parents when he was 16. Two years later, he got a job at MacRobertson's unloading bags of cocoa from horse-drawn delivery carts.

Not long afterwards, he was promoted to the chocolate-making area, where he quickly learned all the preparation processes. His aptitude as a moulder - and the fact that he had immaculate handwriting - earned him promotion to the office area.

One day he overheard someone suggest to "Mr MacRob", as the boss was known, that his proposed new product should take the form of a

mouse. Melbourne chipped in: "That's rubbish."

The boss, who had begun mixing his first chocolates in his mother's bathtub, was already impressed with the teenager's skills. He asked him: "Well, Melbourne, what do you reckon, then?"

Melbourne replied: "Women and children are afraid of mice, that won't sell. I reckon a frog... kids love catching tadpoles and frogs."

The boss gave him three days to come up with the moulds and have the product on his desk for sampling.

Melbourne fashioned the moulds from German silver and had the first Freddo Frogs on Mr MacRob's desk, in four flavours, in the allocated time.

Road crossing structures provide one possible way to mitigate the negative effects of roads and facilitate safe passage for these organisms. However, if crossing structures are to be effective, animals must be willing to use them. Through a series of behavioral choice experiments, we examined whether certain aspects of structural design might influence animal preferences for particular crossing structures. We tested four qualities of possible under-road crossing structures: aperture size, substrate material, length, and light availability. For these qualities, we evaluated the responses of individuals from four species: northern green frogs *Rana clamitans*, leopard frogs *Rana pipiens*, painted turtles *Chrysemys picta*, and snapping turtles *Chelydra serpentina*.

Results indicate that for particular organisms, specific variables did seem to influence patterns of choice. In the aperture treatment, the choices of painted turtles, snapping turtles, and leopard frogs indicate that pipe diameter exerts a significant influence on choice. The substrate treatment indicated that green frogs have a significant preference for soil and gravel over other materials. Overall, these results elucidate important considerations for the design of behaviorally palatable crossing structures. This study was conducted with Professor James Gibbs, Conservation Biology & Wildlife Management, State University of New York, Syracuse. Hara Woltz received a master's degree in conservation biology from Columbia University and intends to continue for her Ph.D. She also has a master's degree in landscape architecture from the University of Virginia. Before entering the program at Columbia, Hara worked as a landscape architect. She currently consults in both fields, combining design and conservation on a variety of projects. <http://www.nytt.com/nyttsem2007.htm>

Not long afterwards, he was told: "You've backed a winner" and promoted to foreman.

Melbourne was an ardent supporter of the Caulfield Football Club in the Victorian Football Association, and Caulfield South Cricket Club, where his son, also named

Harry, played football and cricket. He was secretary of the football club for about 20 years and guided it through tough times to a premiership in 1973.

He retired as a chocolate maker after 38 years, at age 57, rather than take a senior job at Cadbury after the takeover. He took a job as the

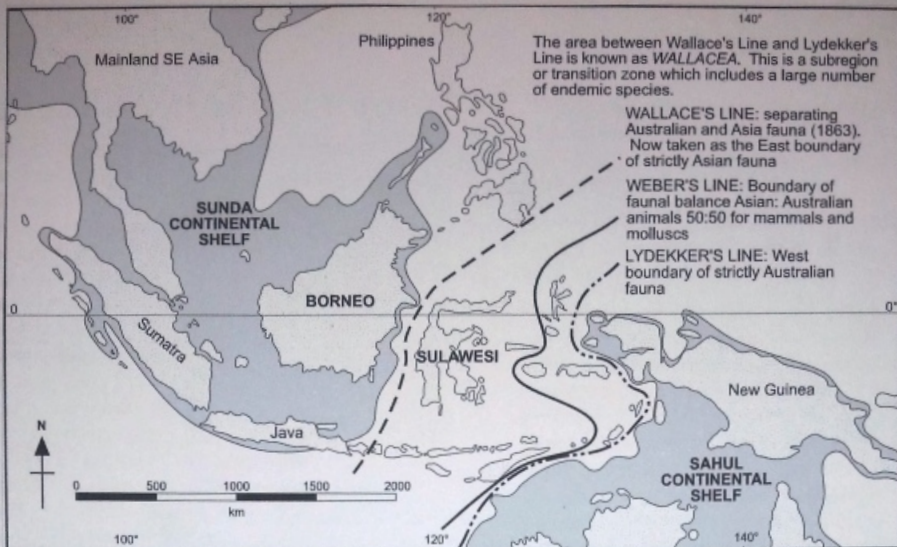
keeper of Caulfield Town Hall, enabling him to devote more time to saving his beloved football club by raising funds for a new pavilion.

Melbourne didn't receive a cent from his employer for his money-making "discovery", but it never bothered him. "Freddo was made for the love of the company," he told his family. A grateful Cadbury, however, kept him in chocolates and

SMH 5/2/2007



Buddies ... Harry Melbourne and Freddo Frog. Photo: Eddie Jim



“Biogeographic implications of Tertiary paleogeographic evolution of Sulawesi and Borneo” S J Moss and M E J Wilson
Map of SE Asia showing the faunal divide of Wallace (1863) and areas of continental shelves. (page 134)
 See Frogcall pages 2 & 3 http://www.gl.rhul.ac.uk/seasia/Biogeog_pdfs/Moss_Wilson.pdf

NT LAUNCHES ATTACK ON CANE TOADS

The Northern Territory Government has declared suburban warfare on the cane toad in its latest campaign to fight the pest that is threatening Australia's biodiversity. The Government launched Operation SOS: Save Our Suburbs this week, at the same time announcing a further \$150,000 funding to the community organisation Frogwatch.

In conjunction with Frogwatch, the NT Government will help Palmerston and Darwin residents prepare their backyards for the toads' arrival.

"This is suburban warfare – we must secure the hatchets and arm ourselves for the inevitable," Environment Minister Marion Scrymgeour said. "All predictions are that the cane toad will reach Palmerston and Darwin this wet season – but that does not mean we should sit back and cry defeat," she said.

"The NT Government has renewed funding to Frogwatch to the tune of \$150,000 – bringing our overall commitment to this organisation to almost half a million dollars. "The money will help Frogwatch run cane toad control initiatives such as toad musters, as well as community education programs."

Scrymgeour said the Government had spent over \$1.2 million on cane toads, including the funding to Frogwatch.

"The NT Government is determined to protect our unique territory lifestyle from the spread of this pest," she said. "This is why we announced in June last year that it will subsidise the cost of cane toad traps by \$30 per trap – available for traps approved by Parks and Wildlife. "I urge more people to take advantage of our subsidy scheme and purchase their traps to help control cane toads in their area."

Scrymgeour said the Operation SOS campaign would include newspaper and radio advertisements, as well as updated website information to give residents information about making their backyards cane toad free.

The NT Government advises Darwin and Palmerston residents to help "cane toad proof" their backyards by:

- * Erecting fencing around the yard, using metal sheeting, shade cloth or fine mesh;
- * Eliminating any standing water and using sprinklers infrequently;
- * Turning off unnecessary garden lighting as it attracts insects, which in turn attract toads;
- * Eliminating rubbish or debris in the yard that toads shelter in during the day; and
- * Regularly patrolling the yard and removing toads before they have a chance to breed

The cane toad, an introduced species harmful to many native Australian animals. 8/11/ 2006 **Angela Kean**
<http://www.environmentalmanagementnews.net/StoryView.asp?StoryID=68471>



'TOADZILLA' CAPTURED IN AUSTRALIA

It might not breathe fire and be accompanied by a cute sidekick called Godzooky but "Toadzilla" - a giant cane toad the size of a small dog has found fame after being captured in Northern Australia.

The toad, weighing almost 2lbs, was captured yesterday by Frogwatch, an environmental group that wants to stop the spread of the poisonous species.

Cane toads were introduced to Australia from Hawaii in a failed attempt to control cane beetles during the 1930s, and have killed countless native animals, including crocodiles. **Alexandra Topping and agencies 27 3 2007**
<http://www.guardian.co.uk/australia/story/02043967,00.html>



Graeme Sawyer holds the 40cm cane toad near Darwin, Australia. Photograph: AP

"The biggest toads are usually females but this one was a rampant male," he said. "He is huge. I would hate to meet his big sister." Mr Sawyer said, adding that the toad was about the size of a small dog.

He said NIMBY (Not In My Back Yard) ToadBusts were finding low numbers of toads in the city, except for Lee Point and the Coastal Reserve.

First released in Queensland, cane toads have since multiplied and marched across Australia, poisoning millions of native animals, including crocodiles in World Heritage-listed Kakadu. Earlier this year, the NT government announced the arrival of the cane toad had forced two species of geckos higher up the Top End's threatened species list. FrogWatch is organising a series of weekly ToadBusts in key areas of Darwin's rural, Palmerston and Darwin suburbs to try to minimise the wet season toad invasion. (also see page 12)

<http://www.smh.com.au/news/national/toadzilla-caught-in-the-act/2007/03/27/1174761435074.html>

FROG HOLLOW OPENING

Surry Hills' vibrant past was be recalled at a community celebration in February to mark the completion of work at Frog Hollow Reserve, on the corner of Albion and Riley Streets in Surry Hills. Named after the frogs whose croaking once echoed through the marshy creek gully, Frog Hollow was once packed with slums and home to some of some of Sydney's most notorious characters. Heritage items have been restored and new plaques explain the park's colourful history. The \$1.3 million upgrade has provided better access, improved lighting and new native trees and plantings. A historic flagstone path, unearthed during construction, has been restored to become a stunning permanent feature linking the sandstone O'Hears stairs with little Albion Street.

www.clovermoore.com/clover/enews

The cane toad caught in Darwin. Photo: Terry Trewin
<http://www.smh.com.au/news/environment/the-great-leap-forward-toads-evolving-to-city-life/2007/03/27/1174761471715.html>



<http://www.abc.net.au/news/newsitems/200703/s1883297.htm>

Evolved toads invading Aust at high speed By Sabra Lane Scientists say cane toads are evolving so quickly, they will soon be on Sydney's doorstep and breeding in Perth, Adelaide and western Victoria.

TOADZILLA CAUGHT IN THE ACT

A cane toad the size of a small dog has been nabbed in the middle of a "breeding frenzy" in Darwin. The 861-gram monster male is the largest to be caught anywhere in the Northern Territory, according to environmental group FrogWatch.

The warty pest was picked up by local volunteers during a community toad bust at Lee Point last night. Measuring 20.5cm in length, the colossal male was one of 39 toads caught in the middle of "a breeding frenzy", said FrogWatch coordinator Graeme Sawyer.



Our Spring / Summer program recommences in September 2007.

Another fantastic weekend at Smiths Lake concluded our field-trips programme for the 2006 /2007 season. I would like to thank all our wonderful fieldtrip leaders who put so much time into the planning & organisation of each fieldtrip. This season we have again unearthed some great species. Without this network of people with an intimate knowledge of their local 'backyard' our programme would be a lot poorer. More importantly, we have been able to show members virtually all the frog species that occur in the greater Sydney region. We also gain a feel for the subtle patterns that occur in the distribution of frogs across Sydney, & we become more aware of the conditions that affect the activity of frogs on the night. I would also like to thank all those FATS members who attend, sometimes under the most atrocious conditions. Once again your conduct is exemplary & your enthusiasm is inspiring.

I would also like to once again acknowledge the kindness & great assistance of The Sydney Olympic Park Authority, Forests NSW, National Parks & Wildlife Service of NSW, & of course, our good friends at the University of NSW (owners of the Smiths Lake Field Studies Station). Their co-operation makes the task of putting together a yearly programme so much easier.

For next season, I have already received some great suggestions for locations. Things are being organised as this article goes to press. Our Spring / Summer season will re-commence in September & details will be published in the newsletter beforehand. We are always pleased to see new faces on our outings & new members are particularly encouraged to attend. Bookings however, are necessary. We work on a 'first-in, first-served' basis, so please do not be offended if fieldtrips are already fully booked – we only take a limited number of people each outing. If anyone has any queries regarding fieldtrips, please just ring me or speak to me at meetings.

I look forward to seeing you in the field soon. **Regards, Rob.**

Limited copies of Marion Anstis' meticulous and comprehensive book "Tadpoles of South-eastern Australia" with over 260 colour photographs and 300 line drawings, are available at our FATS meetings. There is generous a discount for members.



Pseudophryne corroborree photo Marion Anstis

Our specialist research field trips with Graham Pyke & The Australian Museum. Ideal for all students & serious enthusiasts. Locations at Long Reef, North Avoca & Broughton Island. Contact Rob Wall for further details.

FROGWATCH HELPLINE 0419 249 728

FATS CONTACTS

		phone	email
Arthur White	President	ph/fax (02) 9599 1161 (h)	awh41103@bigpond.net.au
Wendy Grimm	Vice President	(02) 9144 5600 (h)	wgrimm@ar.com.au
Punia Jeffery	Secretary	(02) 9969 1932 (h)	
Elvira Lanham	Assistant Secretary	0417 418 596	elvirajlanham@hotmail.com
Alistair MacDougall	Chairperson	(02) 9398 9885 mob 0411 277 070	al@laava.com.au
Karen White	Treasurer	ph/fax (02) 9599 1161 (h)	
Andrew Nelson	Membership Officer	(02) 9411 6068	awnelson@optushome.com.au
Lothar Voigt	Publicity / Exhibition Officer	ph/fax (phone first) (02) 9371 9129(h)	ring first
Robert Wall	Field Trip Co-ordinator	(02) 9681 5308 (h)	
Marion Anstis	Quarantine Officer	(02) 9456 1698 (h)	
David Nelson	Web Master	(02) 9411 6068 (h)	
Monica Wangmann	Editorial Panel	(02) 9797 6543 (h) mob.0418 992 766	wangmann@ihug.com.au
Katherine Wangmann	Editorial Panel	(02) 9797 6543 (h) fax 9797 0603	
Grant Webster	Editorial Panel	(02) 9876 5807 (h) mob 0411 741 869	tnarg_w@hotmail.com

INSURANCE DISCLAIMER FATS has public liability insurance for its various public functions. FATS members should be aware that this insurance does not cover FATS members (it covers the public & indemnifies FATS). We are currently checking with insurance firms to see whether a realistic group policy can be organised to cover FATS volunteers and people who attend field trips.